Intelligent Softstarter Controllers

General Description ................................................................. D2

Series PCS Controllers ........................................................... D4
  Selection Guide ................................................................. D6
  Accessories ................................................................. D17
  Replacement Parts .......................................................... D19
  Technical Information ....................................................... D20
  Wiring Diagrams .............................................................. D24
  Dimensions ................................................................. D26

Series PF Controllers ........................................................... D29
  Selection Guide ................................................................. D36
  Accessories ................................................................. D47
  Replacement Parts .......................................................... D48
  Technical Information ....................................................... D49
  Wiring Diagram ............................................................. D54
  Dimensions ................................................................. D55

Custom Softstarter Panels ................................................... D58

Series PB Torque Controllers ................................................. D60
  Technical Information ....................................................... D61

Series PCEC Hydraulic Elevator Softstarters ........................... D64
  Selection Guide ................................................................. D66
  Replacement Parts .......................................................... D67
  Technical Information ....................................................... D68
  Wiring Diagrams .............................................................. D72
  Dimensions ................................................................. D76
**Next Generation Softstarter Intelligent Controllers**

From economical to elaborate... the right softstarter for any application up to 1000HP @480V

Sprecher + Schuh offers a full line of softstarter controllers that utilize reliable solid state electronics to soft start three phase induction motors. Various options such as “soft-stopping” and braking are also available.

**The benefits of controlled starting**

Solid state starting reduces the inrush currents and mechanical shock typical of conventional electromechanical motor starters, while providing silent and smooth acceleration without arcing, chattering or vibration. Wear on belts, chains, gearboxes and bearings is reduced, thus minimizing production losses and idle times.

**Create the ideal start/stop profile for your application**

Designed from fractional to 1000HP, Sprecher + Schuh softstarters can easily be configured to provide the desired starting and stopping characteristics. Starting modes range from basic Current Limit starting to “Soft Start with Selectable Kickstart,” and other advanced starting modes offered for the PF controller. Standard stopping modes are Soft-stop and coast-to-rest, other optional advanced stopping modes are available in the PF controller such as Smart Motor Brake, Accu-Stop and slow-speed with braking. The PF Intelligent controller also features a Pump Control option designed specifically to reduce “waterhammer” in centrifugal pumping applications. Virtually every controller in the line provides a choice of starting and stopping combinations that allow you to create a custom motor controller suited for any application.

**Modular and Compact Design**

As standard, the Sprecher + Schuh Softstarter includes a built-in electronic overload, integral bypass and motor starting capabilities for both star-delta and standard squirrel-cage induction motors, advanced protection and diagnostics in a compact, maintainable, modular, cost-effective package.

**No maintenance, easy installation**

Because there are no moving parts, Softstarter Controllers require no regular maintenance to repair or replace worn out components. All units can be easily integrated into a new system or used to upgrade an existing electromechanical system (across-the-line, autotransformer, part-winding or wye-delta) using the same control circuitry.

**Common Applications**

- Material Handling
- Overhead Cranes
- Rock Crushers
- Extruders
- Centrifugal Pumps
- Conveying Systems
- Lumber & Saw Mills
- Ventilators & Blowers
- Compressors
- Stirrers & Mixers
- Transport Systems
- Mills & Kneaders
### Reduced Voltage Solid State Starters

<table>
<thead>
<tr>
<th>Features</th>
<th>PCS Controller</th>
<th>PF Controller</th>
</tr>
</thead>
<tbody>
<tr>
<td>S = Standard Features 0 = Optional Features</td>
<td>200...600V 1...480 A</td>
<td>200...600V 1...1250 A</td>
</tr>
<tr>
<td>Soft Start</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Kickstart</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Current Limit</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Dual Ramp Start</td>
<td>~</td>
<td>S</td>
</tr>
<tr>
<td>Full Voltage</td>
<td>~</td>
<td>S</td>
</tr>
<tr>
<td>Soft Stop</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Pump Control</td>
<td>~</td>
<td>0</td>
</tr>
<tr>
<td>Preset Slow Speed</td>
<td>~</td>
<td>S</td>
</tr>
<tr>
<td>Linear Speed</td>
<td>~</td>
<td>S</td>
</tr>
<tr>
<td>Smart Motor Braking</td>
<td>~</td>
<td>0</td>
</tr>
<tr>
<td>Accu-Stop</td>
<td>~</td>
<td>0</td>
</tr>
<tr>
<td>Slow Speed with Braking</td>
<td>~</td>
<td>0</td>
</tr>
<tr>
<td>Motor Protection</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Metering</td>
<td>~</td>
<td>S</td>
</tr>
<tr>
<td>Keypad Programming/LCD Display</td>
<td>~</td>
<td>S</td>
</tr>
<tr>
<td>Inside Delta Connection</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Product Selection</td>
<td>Page D4</td>
<td>Page D29</td>
</tr>
</tbody>
</table>

**PCS Softstarter Controller**
- Microprocessor controller designed for 3-phase motors up to 480A (3...85A DIN-rail mountable)
- Provides three different starting modes and selectable soft stop mode
- Includes built-in electronic overload and bypass contactor
- All models wye-delta compatible (6 lead) up to 830A.

**PF Softstarter Controller**
- Microprocessor controller designed for 3-phase motors or Wye-Delta (6-lead) motors (up to 1,250A; 1,600A Y-D).
- Provides four basic starting modes including soft start, current limit starting and softstart with selectable kickstart and other advanced starting modes.
- Includes electronic overload, integral bypass and advanced protection and diagnostics
- Numerous starting and stopping options available including unique Pump Control option for reducing “waterhammer” in pumping systems, and selectable auxiliary contacts.